

WHAT IS CLAIMED IS:

1 1. A method for determining a heart rate in a pulse oximeter comprising:
2 determining a first heart rate from a pulse oximetry signal using a first
3 method;
4 determining a second heart rate from a pulse oximetry signal using a second
5 method;
6 evaluating a reliability of said first heart rate using metrics applied to said first
7 method;
8 using said first heart rate when said metrics indicate said first method is
9 reliable; and
10 using said second heart rate when said metrics indicate that said first heart rate
11 is unreliable.

1 2. The method of claim 1 further comprising
2 determining that said first heart rate is unreliable when said metrics indicate
3 that a most recent pulse is rejected.

1 3. The method of claim 1 wherein said first method does not use an
2 ensemble averaged waveform, and said second method does use an ensemble averaged
3 waveform.

1 4. The method of claim 1 wherein determining a first and second heart
2 rate each comprise determining a pulse period, and further comprising:
3 converting a pulse period used into a rate.

1 5. A pulse oximeter which determines a heart rate, comprising:
2 a first heart rate calculator for determining a first heart rate from a pulse
3 oximetry signal using a first method;
4 a second heart rate calculator for determining a second heart rate from a pulse
5 oximetry signal using a second method;
6 an evaluator configured to determine the reliability of said first heart rate using
7 metrics applied to said first method; and
8 a selector configured to use said first heart rate when said metrics indicate said
9 first method is reliable, and to use said second heart rate when said metrics indicate that said
10 first heart rate is unreliable.

1 6. The pulse oximeter of claim 5 wherein said selector determines that
2 said first heart rate is unreliable when said metrics indicate that a most recent pulse is
3 rejected.

1 7. The pulse oximeter of claim 5 wherein said first heart rate calculator
2 does not use an ensemble averaged waveform, and said second heart rate calculator does use
3 an ensemble averaged waveform.